

Name: _____

Block: _____

Unit Conversions #3

Perform each of the following conversions. A list of conversion factors is given on the back of this worksheet.

1. $2.51 \text{ m} = \text{_____ cm}$

6. $9.3 \times 10^7 \text{ mi.} = \text{_____ km}$

2. $18.1 \text{ mL} = \text{_____ } \mu\text{L}$

7. $6.0 \text{ ft.} = \text{_____ m}$

3. $68.3 \text{ kJ} = \text{_____ J}$

8. $20.0 \text{ ton} = \text{_____ tonne}$

4. $6.56 \times 10^4 \text{ kg} = \text{_____ tonne}$

9. $40.00 \frac{\text{g}}{\text{mol}} = \text{_____ } \frac{\text{lb.}}{\text{mol}}$

5. $20.0 \text{ gal.} = \text{_____ } \ell$

10. $30.0 \frac{\text{lb.}}{\text{in}^2} = \text{_____ } \frac{\text{kg}}{\text{cm}^2}$

Conversion Factors

Conversions with an “is identical with” sign (\equiv) are exact (infinitely precise). Conversions with an equals sign ($=$) are precise to the number of significant figures given.

$$1.000 \text{ gal.} = 3.785 \ell$$

$$1.00 \text{ mi.} = 1.61 \text{ km}$$

$$1 \text{ in.} \equiv 2.54 \text{ cm} \quad (1 \text{ in.})^2 \equiv (2.54 \text{ cm})^2 \quad 1 \text{ in.}^2 \equiv 2.54^2 \text{ cm}^2$$

$$(1 \text{ in.})^3 \equiv (2.54 \text{ cm})^3 \quad 1 \text{ in.}^3 \equiv 2.54^3 \text{ cm}^3$$

$$1 \text{ ft.} \equiv 12 \text{ in.} \quad (1 \text{ ft.})^3 \equiv (12 \text{ in.})^3 \quad 1 \text{ ft.}^3 \equiv 12^3 \text{ in.}^3$$

$$1 \text{ tonne} \equiv 1000 \text{ kg}$$

$$1 \text{ ton} \equiv 2000 \text{ lb.}$$

$$1.00 \text{ lb.} = 454 \text{ g}$$

$$1 \text{ hr.} \equiv 60 \text{ min.}$$

$$1 \text{ min.} \equiv 60 \text{ s}$$